SEQUENCE LISTING

<110> Pettersson, Dan
Wu, Wenping
Fuglsang, Claus

<120> Thermostable Enzyme Compositions

<130> 10254.204-US

<160> 16

<170> PatentIn version 3.2

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ctcgcagaca gaaagcagga gaccaagcgt gcgaaagtat tccaatggtt cggttcgaac 120

gagtccggtg ctgaattcgg aagccagaac cttccaggag tcgagggaaa ggattatata 180

tggcctgatc ccaacaccat tgacacattg atcagcaagg ggatgaacat ctttcgtgtc 240

ccctttatga tggagagatt ggttcccaac tcaatgaccg gctctccgga tccgaactac 300

ctggcagatc tcatagcgac tgtaaatgca atcacccaga aaggtgccta cgccgtcgtc 360

gatcctcata actacggcag atactacaat tctataatct cgagcccttc cgatttccag 420

accttctgga aaacggtcgc ctcacagttt gcttcgaatc cactggtcat cttcgacact 480

aataacgaat accacgatat ggaccagacc ttagtcctca atctcaacca ggccgctatc 540

gacggcatcc gttccgccgg agccacttcc cagtacatct ttgtcgaggg caattcgtgg 600

accggggcat ggacctggac gaacgtgaac gataacatga aaagcctgac cgacccatct 660

gacaagatca tatacgagat gcaccagtac ctggactctg acggatccgg gacatcagcg 720

acctgcgtat cttcgaccat cggtcaagag cgaatcacca gcgcaacgca gtggctcagg 780

gccaacggga agaagggcat catcggcgag tttgcgggcg gagccaacga cgtctgcgag 840

acggccatca cgggcatgct ggactacatg gcccagaaca cagacgtctg gactggcgcc 900

atctggtggg cggccgggcc gtggtgggga gactacatat tctccatgga gccggacaat 960

ggcatcgcgt atcagcagat acttcctatt ttgactccgt atctttga 1008

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Met Lys Leu Gly Ser Leu Val Leu Ala Leu Ser Ala Ala Arg Leu Thr
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Leu Ser Ala Pro Leu Ala Asp Arg Lys Gln Glu Thr Lys Arg Ala Lys
20 25 30

Val Phe Gln Trp Phe Gly Ser Asn Glu Ser Gly Ala Glu Phe Gly Ser
35 40 45

Gln Asn Leu Pro Gly Val Glu Gly Lys Asp Tyr Ile Trp Pro Asp Pro
50 55 60

Asn Thr Ile Asp Thr Leu Ile Ser Lys Gly Met Asn Ile Phe Arg Val
65 70 75 80

Pro Phe Met Met Glu Arg Leu Val Pro Asn Ser Met Thr Gly Ser Pro
85 90 95

Asp Pro Asn Tyr Leu Ala Asp Leu Ile Ala Thr Val Asn Ala Ile Thr
100 105 110

Gln Lys Gly Ala Tyr Ala Val Val Asp Pro His Asn Tyr Gly Arg Tyr
115 120 125

Tyr Asn Ser Ile Ile Ser Ser Pro Ser Asp Phe Gln Thr Phe Trp Lys
130 135 140

Thr Val Ala Ser Gln Phe Ala Ser Asn Pro Leu Val Ile Phe Asp Thr
145 150 155 160

Asn Asn Glu Tyr His Asp Met Asp Gln Thr Leu Val Leu Asn Leu Asn
165 170 175

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Gln Ala Ala Ile Asp Gly Ile Arg Ser Ala Gly Ala Thr Ser Gln Tyr
            180                 185                 190

Ile Phe Val Glu Gly Asn Ser Trp Thr Gly Ala Trp Thr Trp Thr Asn
        195                 200                 205

Val Asn Asp Asn Met Lys Ser Leu Thr Asp Pro Ser Asp Lys Ile Ile
    210                 215                 220

Tyr Glu Met His Gln Tyr Leu Asp Ser Asp Gly Ser Gly Thr Ser Ala
225                 230                 235                 240

Thr Cys Val Ser Ser Thr Ile Gly Gln Glu Arg Ile Thr Ser Ala Thr
                245                 250                 255

Gln Trp Leu Arg Ala Asn Gly Lys Lys Gly Ile Ile Gly Glu Phe Ala
            260                 265                 270

Gly Gly Ala Asn Asp Val Cys Glu Thr Ala Ile Thr Gly Met Leu Asp
        275                 280                 285

Tyr Met Ala Gln Asn Thr Asp Val Trp Thr Gly Ala Ile Trp Trp Ala
    290                 295                 300

Ala Gly Pro Trp Trp Gly Asp Tyr Ile Phe Ser Met Glu Pro Asp Asn
305                 310                 315                 320

Gly Ile Ala Tyr Gln Gln Ile Leu Pro Ile Leu Thr Pro Tyr Leu
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<213> Thermoascus aurantiacus

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<221> MISC_FEATURE
<222> (2)..(2)
<223> Xaa in position 2 means any amino acid

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Phe Gly Ser Gln Asn
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<210> 4
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Primer

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<223> K means T or C
M means A or G
N means T or C or A or G

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<223> n is a, c, g, or t

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<223> n is a, c, g, or t

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<222> (15)..(15)
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aakgamtcng gngcngaatt 20

<210> 5
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<212> DNA
<213> Artificial

<220>
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M means A or G

N means T or C or A or G

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aakgamtcng gngcngagtt 20

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M means A or G
N means T or C or A or G

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<223> n is a, c, g, or t

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aakgamagkg gngcngaatt 20

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M means A or G
N means T or C or A or G

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<400> 7
aakgamagkg gngcngagtt 20

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<212> DNA
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<400> 8
aagatgtact gggaagtg 18

<210> 9
<211> 21
<212> DNA
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<400> 9
tggttgagat tgaggactaa g 21

<210> 10
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gattatagaa ttgtagtatc t 21

<210> 11
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<212> DNA
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agagccggtc attgagttg 19

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atgaagctcg gctctctcgt 20

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cttgtctcct gtctcgttca c 21

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<213> Thermomyces lanuginosus

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<400> 14

Met Val Gly Phe Thr Pro Val Ala Leu Ala Ala Leu Ala Ala Thr Gly
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Ala Leu Ala Phe Pro Ala Gly Asn Ala Thr Glu Leu Glu Lys Arg Gln
-10 -5 -1 1

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Thr Thr Pro Asn Ser Glu Gly Trp His Asp Gly Tyr Tyr Tyr Ser Trp
        5                  10                  15

Trp Ser Asp Gly Gly Ala Gln Ala Thr Tyr Thr Asn Leu Glu Gly Gly
    20                  25                  30

Thr Tyr Glu Ile Ser Trp Gly Asp Gly Gly Asn Leu Val Gly Gly Lys
35                  40                  45                  50

Gly Trp Asn Pro Gly Leu Asn Ala Arg Ala Ile His Phe Glu Gly Val
                55                  60                  65

Tyr Gln Pro Asn Gly Asn Ser Tyr Leu Ala Val Tyr Gly Trp Thr Arg
            70                  75                  80

Asn Pro Leu Val Glu Tyr Tyr Ile Val Glu Asn Phe Gly Thr Tyr Asp
        85                  90                  95

Pro Ser Ser Gly Ala Thr Asp Leu Gly Thr Val Glu Cys Asp Gly Ser
    100                 105                 110

Ile Tyr Arg Leu Gly Lys Thr Thr Arg Val Asn Ala Pro Ser Ile Asp
115                 120                 125                 130

Gly Thr Gln Thr Phe Asp Gln Tyr Trp Ser Val Arg Gln Asp Lys Arg
                135                 140                 145

Thr Ser Gly Thr Val Gln Thr Gly Cys His Phe Asp Ala Trp Ala Arg
            150                 155                 160

Ala Gly Leu Asn Val Asn Gly Asp His Tyr Tyr Gln Ile Val Ala Thr
        165                 170                 175

Glu Gly Tyr Phe Ser Ser Gly Tyr Ala Arg Ile Thr Val Ala Asp Val
    180                 185                 190

Gly
195
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<210> 15
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Ser Leu Ala Leu Ser Thr Gly Pro Ser Pro Val Ala Ala Gly Leu Pro
                -10                 -5                  -1  1

Ile Pro Ala Gly Ala Thr Ser Ala Thr Gly Pro Thr Ala Pro Pro Pro
        5                   10                  15

Pro Val Gly Pro Thr Ala Ala Pro Pro Gly Gly Cys Thr Val Thr Gly
    20                  25                  30

Val Ala Leu Ile Gly Ala His Gly Ala Ala Thr Pro Thr Ser Gly Ala
35                  40                  45                  50

Ala Ser Ala Gly Val Ala Ala Val Ala Leu Ile Gly Met Ala Ala Pro
                55                  60                  65

Pro Thr Ala Pro Leu Thr Gly Pro Leu Ala Ala Pro Val Thr Leu Pro
            70                  75                  80

Gly Val Ala Ala Leu Leu Pro Pro Gly Ala Ala Gly Ser His Gly Thr
        85                  90                  95

Gly Thr Ala Met Thr Thr Ala Thr Ser Thr Leu Pro Gly Gly Gly Ala
    100                 105                 110

Val Pro Pro Val Ala Ala Ala Gly Ala Gly Ala Val Val Ala Ser Ser
115                 120                 125                 130

Thr Ala Thr Thr Ala Gly Pro Gly Ala Ala Ser Gly Gly Thr Val Leu
                135                 140                 145

Pro Thr Leu Gly Val Val Leu Gly Gly Gly Gly Ala Cys Thr Leu Cys
            150                 155                 160

Ala Ala Met Cys Pro Ala Gly Val Ala Gly Ala Gly Ser Thr Thr Thr
        165                 170                 175
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Leu Gly Val Pro Ala Pro Ala Ile Thr Ala Ala Leu Ala Ala Ala Ala
    180                 185                 190

Pro Ser Ala Ala Leu Ser Ala Ser Ala Ala Leu Thr Leu Met Ala Met
195                 200                 205                 210

Cys Pro Pro Ala Thr Leu Ser Ser Gly Ala Ala Ser Pro Pro Cys Ala
                215                 220                 225

Leu Pro Thr Ala Gly Gly Thr Val Ser Thr Gly Thr Thr Thr Ala Leu
            230                 235                 240

Ala Leu Thr Thr Gly Thr Gly Pro Gly Ala Ala Leu Gly Pro Val Gly
        245                 250                 255

Gly Val Gly Thr Val Ala Gly Leu Leu Ala Ala Leu Thr Gly Gly Ala
    260                 265                 270

Val Ala Ala Gly Thr Gly Thr Ala Ala Thr Leu Ala Ser Ala Pro Ala
275                 280                 285                 290

Thr Pro Pro Leu Ala Ala Thr Pro Thr Ala Ala Pro Ser His Ala Ala
                295                 300                 305

Thr Met Val Pro Ile Pro Ala Ala Leu Gly Leu Pro Ala Ala Thr Ala
            310                 315                 320

Leu Ala Pro Leu Leu Pro Ala Gly Ala Ala Leu Thr Val Ala Ser Leu
        325                 330                 335

Leu Val Pro Pro Ser Gly His Met Thr Val Gly Leu Leu Ala Cys Ser
    340                 345                 350

Gly Leu Gly Ala Val Ala Val Leu Val Ala Ala Ala Val Gly Pro Leu
355                 360                 365                 370

Gly Pro Cys Gly Gly Val Ala Gly Val Cys Gly Leu Ser Ala Pro Val
                375                 380                 385

Gly Ser Gly Thr Thr Ala Ala Gly Ala Gly Gly Gly Ala Pro Ala Leu
            390                 395                 400
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Cys Gly Pro Val Pro Ser Gly
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<210> 16
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<213> Myceliophthora thermophila

<220>
<221> mat_peptide
<222> (1)..()

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Ala Leu Thr Tyr Arg Gly Val Asp Trp Ser Ser Val Val Val Glu Glu
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Arg Ala Gly Val Ser Tyr Lys Asn Thr Asn Gly Asn Ala Gln Pro Leu
20 25 30

Glu Asn Ile Leu Ala Ala Asn Gly Val Asn Thr Val Arg Gln Arg Val
35 40 45

Trp Val Asn Pro Ala Asp Gly Asn Tyr Asn Leu Asp Tyr Asn Ile Ala
50 55 60

Ile Ala Lys Arg Ala Lys Ala Ala Gly Leu Gly Val Tyr Ile Asp Phe
65 70 75 80

His Tyr Ser Asp Thr Trp Ala Asp Pro Ala His Gln Thr Met Pro Ala
85 90 95

Gly Trp Pro Ser Asp Ile Asp Asn Leu Ser Trp Lys Leu Tyr Asn Tyr
100 105 110

Thr Leu Asp Ala Ala Asn Lys Leu Gln Asn Ala Gly Ile Gln Pro Thr
115 120 125

Ile Val Ser Ile Gly Asn Glu Ile Arg Ala Gly Leu Leu Trp Pro Thr
130 135 140

Gly Arg Thr Glu Asn Trp Ala Asn Ile Ala Arg Leu Leu His Ser Ala
145 150 155 160

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Ala Trp Gly Ile Lys Asp Ser Ser Leu Ser Pro Lys Pro Lys Ile Met
                165                 170                 175

Ile His Leu Asp Asn Gly Trp Asp Trp Gly Thr Gln Asn Trp Trp Tyr
            180                 185                 190

Thr Asn Val Leu Lys Gln Gly Thr Leu Glu Leu Ser Asp Phe Asp Met
        195                 200                 205

Met Gly Val Ser Phe Tyr Pro Phe Tyr Ser Ser Ser Ala Thr Leu Ser
    210                 215                 220

Ala Leu Lys Ser Ser Leu Asp Asn Met Ala Lys Thr Trp Asn Lys Glu
225                 230                 235                 240

Ile Ala Val Val Glu Thr Asn Trp Pro Ile Ser Cys Pro Asn Pro Arg
                245                 250                 255

Tyr Ser Phe Pro Ser Asp Val Lys Asn Ile Pro Phe Ser Pro Glu Gly
            260                 265                 270

Gln Thr Thr Phe Ile Thr Asn Val Ala Asn Ile Val Ser Ser Val Ser
        275                 280                 285

Arg Gly Val Gly Leu Phe Tyr Trp Glu Pro Ala Trp Ile His Asn Ala
    290                 295                 300

Asn Leu Gly Ser Ser Cys Ala Asp Asn Thr Met Phe Ser Gln Ser Gly
305                 310                 315                 320

Gln Ala Leu Ser Ser Leu Ser Val Phe Gln Arg Ile
                325                 330
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